

People & Places

# Preserving the world's small grains

Harold Bockelman maintains unique collection of 143,000 types of grain

By JOHN O'CONNELL  
Capital Press

ABERDEEN, Idaho — USDA has made ordering seed from its vast National Small Grains Collection similar to shopping for merchandise online.

Since 1898, the facility has preserved more than 143,000 types of wheat, barley, oats, rice, rye, triticale and wild relatives originating from throughout the world, maintaining a pool of genetics to help scientists tackle some of the great challenges facing agriculture.

Harold Bockelman, the collection's curator of more than 30 years, explained crop researchers may search his online database for specific numbered lines, or by desired traits. The grain types, called accessions, are paired with descriptions and photographs. Map coordinates accompany some of the land-race accessions, which were cultivated over thousands of years, to show their place of origin.

Shoppers fill a virtual cart upon making their selections, though Bockelman's service is free of charge.

"It looks more like an Amazon site than it used to," Bockelman said.

In an average year, Bock-



John O'Connell/Capital Press

Harold Bockelman, curator of the National Small Grains Collection in Aberdeen, Idaho, with variety plots from the collection.

elman and his staff mail more than 50,000 envelopes, each containing 5 grams of seed, to roughly 800 domestic and international crop researchers and cereal breeders.

Breeders have found plenty of hidden gems in the collection, such as PI 178383, a land-race wheat line originating in Eastern Turkey with resistance to dwarf bunt, stripe rust and other diseases. It was used as a parent in many modern crosses.

Frank Curtis, chief operating officer at Limagrain Cereal Seeds of Fort Collins, Colo., said the collection has provided his company with invaluable genetic material. Most recently, Curtis said


Limagrain propagated seed from about 2,000 of the collection's barley lines, hoping to cross them with European varieties to develop early maturing, drought-resistant malt lines adapted for Northwest conditions.

"It's a wonderful initiative," Curtis said of the collection. "Anything that has been in the gene pool and has potential use is preserved for all time."

For several years, varieties from the collection have also been sent to Kenya and Ethiopia, where they're being evaluated for resistance to a destructive stem rust found there, based on the concerns that it could spread.

The collection includes about 50,000 wheat, 33,000 barley, 20,000 oat, 19,000 rice, 2,000 rye and 2,000 triticale accessions, plus wild relatives. Each spring and fall, Bockelman and his staff plant a few thousand of the collection's accessions to replenish seed and evaluate them in research fields at Aberdeen. Accessions are planted in 10-foot strips, separated by "guard rows" of unrelated crops. The staff uses a Japanese rice binder to harvest them.

Seed at the facility is stored at 42 degrees and 25 percent humidity and remains viable for up to 25 years. The collection is backed up by seed frozen in liquid nitrogen in Fort



**Western Innovator**

**Harold Bockelman**  
Age: 68

**Education:** Undergraduate degree from Purdue University and a Ph.D. in plant genetics from University of California-Davis

**Hometown:** Aberdeen, Idaho

**Job:** Supervisory agronomist with USDA and curator of its National Small Grains Collection

**Innovation:** Maintaining USDA's National Small Grains Collection for more than 30 years and helping to make accessing its materials more convenient

Collins, Colo., where it can be stored for up to 100 years. New accessions are added periodically. Bockelman now plans to add a wild barley collection obtained through an exchange by a Minnesota scientist.

"We still look out for possibilities to obtain other collections from throughout the world, but not so much now because our collection is fairly complete," Bockelman said.

# Sisters take their FFA teams to nationals

By CRAIG REED  
For the Capital Press

SUTHERLIN, Ore. — Cassidy Leatherwood is considering a career in international agriculture.

If it is that industry or some other that the Sutherlin High School senior eventually enters, she'll be more than ready to advocate for it, thanks to the experience she is getting now as a student involved in parliamentary procedure through the FFA program.

Parliamentary procedure involves using Robert's Rules of Order to run a business meeting.

Cassidy chairs her school's advanced parliamentary procedure team. The team won its district, sectional and state competitions, all earlier this year, and is now preparing to participate at the FFA National Convention that is scheduled for Oct. 25-28 in Indianapolis, Ind. An advanced team from each of the 50 states is expected to compete at nationals.

What is unique about this year's FFA competition for Sutherlin High is that its beginning parliamentary procedure team also prevailed in its earlier competitions to earn a trip to the national conven-



Craig Reed/For the Capital Press

Wes Crawford, the agricultural science teacher and FFA advisor at Sutherlin High School in Sutherlin, Ore., goes over some parliamentary procedure details with sisters Cassidy, left, and Regan Leatherwood after a recent practice session.

tion. And the chairperson of that beginning team is sophomore Regan Leatherwood, Cassidy's sister.

"For both these teams to be from the same school, that hasn't happened in Oregon in 10 years," said Wes Crawford, the agricultural science teacher and FFA adviser at Sutherlin High. "Then for the chairperson of the teams to be sisters, that's probably never happened."

The Oregon state competitions were won in March when Sutherlin's advanced team consisted of juniors and one senior and the beginner team consisted of all freshmen. The students competing on the advanced team

with Cassidy at nationals will be seniors Tristan Vincent, Madelyn Higgins, Hailee Holder and Taylor Moser and Umpqua Community College freshman Esten Harrington.

Joining Regan on the beginning team are sophomores Nolan Carson, Hailey Boehm, Grace Matteo, Zach Lor, Sydnee Tilley and Hannah Jarman.

The students first learned about parliamentary procedure in their Introduction to Agriculture class at Sutherlin High.

"In agriculture, you need to know how to debate and discuss issues that concern agriculture," Cassidy said. "Learning parliamentary procedure gives you a little bit more of a competitive edge, it helps you

debate more efficiently."

Crawford said it is important for future members of such organizations as the Farm Bureau, livestock associations and Granges to know how to conduct themselves in business meetings and discussions.

"If we want our students to be able to engage others in advocating for and defending agricultural industries, the ability to articulate a debate and the knowledge to be able to access how to get business done is invaluable," the teacher said. "In our events, the topics students debate are often current events and issues in agriculture."

"There is no one else teaching students how to do this," he added. "Students who leave high school knowing how to run a meeting and speak well doing it were probably enrolled in an agricultural science class."

Cassidy said that at nationals, teams will be judged on how well they use Robert's Rules of Order during a meeting. The advanced teams will have to demonstrate 10 different parliamentary motions and will have to debate at least 15 times during an 11-minute meeting. The advanced students will also be given a writ-

ten test on the rules.

The beginning teams will have to demonstrate a few less motions and their written test won't be as complex.

Cassidy was on the school's beginning parliamentary team as a freshman and has been the chair of the school's last two advanced teams.

"Winning state was three years in the making," she said. "We put a lot of work into that state competition. I was happy with how we did, regardless of whether we had won or not. I did not expect us to win so when we did, it was very surprising."

"At nationals, I just want us to do the best we can," she added.

Regan described the beginning team as "pretty dedicated."

"We have a lot of skills," she said. "I don't know if we'll win, but we have the potential to do well."

In addition to the two parliamentary procedure teams, Sutherlin will have students competing at nationals in three other categories: Lee Wesenberg in prepared public speaking; Mackenzie Price in extemporaneous public speaking; and Taryn Wheelchel, Kallana Granger, Raichel Wolfe and Destiny Pedersen in veterinary science.

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**Saturday, Oct. 14**  
Northwest Farmers Union 2017 Convention 8 a.m.-11 p.m. Walla Walla Community College, 500 Tausick Way, Walla Walla, Wash. The Northwest Farmers Union annual convention, which hosts producers and supporters of agriculture from around Washington, Idaho and Oregon, is an event that has a multitude of educational speakers, farmer/rancher speakers/attendees, honorary awards and general networking and camaraderie. The event is our gathering for our membership to come together and enact our grassroots policy for the upcoming year as well as help guide the many programs that we work to implement for our membership. Members can vote on changes to the policy and structure of the organization as well as take part in leadership opportunities and network with other leaders from around the region. Cost: \$50 Website: [www.nwfu.org](http://www.nwfu.org)

**Sunday, Oct. 15**  
St. Boniface Annual Chicken Dinner. 11 a.m.-3 p.m. Sublimity School, 376 E. Main St., Sublimity, Ore. The church's annual chicken dinner fundraiser will include children's games, a country store, crafters and vendors in the gym. The church archives and museum will also be open. Cost: Adults \$14, children 6-12 \$5

**Monday, Oct. 16**  
Practical, Low-Cost Grazing Management. 5:30-8:30 p.m. OSU Extension Auditorium, SOREC-569 Hanley Road, Central Point, Ore. Learn the basics of managing your pastures by controlling your livestock to maximize plant health and growth. There are factors that determine paddock size and fence location, temporary water systems and more. When put into use your management of grazing will make a big difference in the condition of your pasture without having to invest a great deal in amendments. Instructors: Gordon Jones, OSU Extension General Agriculture and Angie Boudro, Boudro Enterprises. If possible, bring a large laminated map of your property and dry-erase markers so you can begin planning your fence locations. After completing this class, you are encouraged to attend

the Temporary Electric Fence-building Workshop on Oct. 21. Cost: \$20 for one/\$30 for two from the same farm. Website: <http://bit.ly/JacksonSmallFarms> or <http://extension.oregonstate.edu/sorec/SF-classes>

**Tuesday, Oct. 17**  
Advanced Poultry Feeding for Small-Scale Commercial Flocks. 5:30-8:30 p.m. OSU Extension, Auditorium, SOREC-569 Hanley Road., Central Point, Ore. We will be formulating rations for pasture-based poultry flocks, alternative feedstuffs such as mealworms, discussing ways to reduce feeding costs and more. If you have specific questions, email them to [angelaboudro@gmail.com](mailto:angelaboudro@gmail.com) in advance of the class. Dr. Hermes will address your questions during the class. Cost: \$25 one/\$40 two from the same farm. Website: <http://bit.ly/JacksonSmallFarms>

**Wednesday, Oct. 18**  
Sustainable Community Stewards Volunteer Training. 6-9:15 p.m. McCollum Park, 600 128th St. SE, Everett, Wash. Cost: \$30 Website: <http://bit.ly/2hlyXC4>

**Thursday, Oct. 19**  
Living Peacefully with Beavers.

6-8 p.m. Monroe Library, 1070 Village Way, Monroe, Wash. Beavers, and how to live with them, will be the topic of three seminars in October sponsored by Snohomish Conservation District and Beavers Northwest. While beavers can cause headaches for landowners, they can also be invaluable for protecting and preserving water resources and wildlife habitat. If beavers are causing issues on your property, there may be solutions available to help you to live peacefully alongside them. The October seminars are taught by local beaver experts Alex Pittman and Ben Dittbrenner and will cover the benefits that resident beavers provide, cost-effective devices that can help you manage the impact of beaver flooding on your property, and technical and financial assistance available from Snohomish Conservation District and Beavers Northwest. Cost: Free. Website: <http://scdbeavers.eventbrite.com>

**Wednesday, Oct. 25**  
Sustainable Community Stewards Volunteer Training. 6-9:15 p.m. McCollum Park, 600 128th St. SE, Everett, Wash. Cost: \$30 Website: <http://extension.wsu.edu/snohomish/wp-content/uploads/sites/7/2012/11/2017-SCS-Application-form.doc>

**Wednesday-Saturday Oct. 25-28**  
90th National FFA Convention and Expo. Bankers Life Fieldhouse, Lucas Oil Stadium, Indianapolis, Ind. Website: <http://www.ffa.org/>

**Thursday, Oct. 26**  
UI Cover Crop Field Day. 1:30-5 p.m. USDA-NRCS Gooding office, 820 Main St., Gooding, Idaho. Incorporating cover crops into cropping systems. Cost: Free

of fruit that you'd like to grow, you can place an order for a custom-grafted fruit tree. Bring your unknown apples for sleuthing by the Apple ID team. Local experts will present on a variety of fruit-growing topics both days of the event. Admission is \$7 per person or \$12 per family (members pay \$5 each or \$10 for families). Website: <http://www.homeorchardsociety.org/events/>

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**Correction**  
On Page 1 of the Oct. 6 edition of Capital Press, an article titled, "Upcoming canola study frames talks on crop's future" incorrectly stated that the Willamette Valley Specialty Seed Association filed a lawsuit against the Oregon Department of Agriculture's canola regulations in 2013. In fact, some members of the WVSSA, joined by two nonprofit organizations, filed the lawsuit.  
Capital Press regrets the error.